MODIS Technical Team Meeting
Thursday, October 25, 2001
Building 33, Room E125
3:00 pm

Vince Salomonson chaired the meeting. Present were Barbara Conboy, Eric Vermote, Skip Reber, Bruce Ramsay, Bill Barnes, Steve Kempler, Ed Masuoka, Chris Justice, and Mark Domen, with David Herring taking the minutes.

1.0 Upcoming Events

· MODIS Science Team Meeting, BWI Marriott December 17-19, 2001

2.0 Meeting Minutes

2.1 Instrument Update

Domen reported that the testing done to date hasn't found the cause of the MODIS CP reset problem on the A-side. The next step is to remove CP-A cards from FM-1 and try to do troubleshooting on the flight cards. They are preparing to go forward with a request to management to do that. They expect to merge that process into the process at TRW where they're removing certain boxes from the spacecraft. They will have a two- week period to do troubleshooting on the cards and to re-insert them. The schedule is still holding March 24 for the launch date. TRW is coming up with a plan for finishing hardware without slipping the launch date. They will start removing boxes this weekend (October 27), and if they are able to come up with replacement parts they should make the schedule. There is some question as whether they will be able to reuse all parts that they need to reuse. The current plan is to reuse those parts and have them back in time to support launch on the scheduled date.

As far as the modification strategy, Domen reported that the review team came up with a way to modify the CP-A card that would have it ignore the resets--similar to the software approach used to accommodate the PFM formatter reset problem. There is some hesitancy to use that approach on the processor, however, because there's more potential for processor to do undesired commands. Domen added that although the problem is only currently manifested on CP-A, they believe it's on all processor boards, probably since it showed up on CP-A of both PFM and FM-1, as well as on the PFM formatter. They believe the problem is the same as that observed in August 2000 on PFM, but not related to the problem of June 2001. However, it's not clear whether during the recovery effort after the June 2001 event, where they first tried to bring up CP-B and got repeated resets, we were not seeing this same problem. They are not ready to say it's the same thing, because there could be other hardware issues related to power supply, but it is possible.

Bill Barnes reported that the formatter resets on Terra MODIS passed 1 million yesterday (October 24). They see no evidence of any problem with the science data so far. Evans showed some images at previous TT meetings, but in that case the problem was due to direct downlink issues. As long as they use L1A data through the DAAC, they don't see

any artifacts. Domen said this is similar to what they saw on the FM1 CP-A during testing – when they got above 1°C, the reset problems went away.

Barnes reported that they are continuing to look at FM-1 data. SWIR cross talk is about the same as on PFM. They can't tell if one is better than the other. However, MWIR problem is much smaller on FM-1. They also looked at reflectance versus scan angle ratio and found it very flat, meaning little or no difference between mirror sides, which is very good.

Barnes said that there is some discussion of whether we are using the right method for treating Earth-Sun distance on PFM. Xiong is convinced he's doing it right. They will get together with some other people to be sure they are not doing something incorrectly.

Post-meeting addition via email from Jack Xiong, below.

A new LUT was delivered to the DAAC. It only impacts detector quality flag bit for one detector in B5 and one in B7. DAAC may start processing the July data by Friday. Robert Wolfe had a question: Should they reprocess days 192-195 (already processed with LUTs version 6) with the new LUTs. MCST mentioned this at MsWG meeting. After discussing with Vermote, MCST agreed that the DAAC does not need to reprocess data from days 192-195. Lastly, MCST will hold a calibration workshop at the Science Team Meeting in December.

2.2 Data Processing Status

Kempler reported that on reprocessing they are now through November and December, and part of January, which along with the March-May 2001 period, is approximately5.5 months of reprocessing completed out of 12 months. He is optimistic that the DAAC will make it through reprocessing of 12 months by December 21. The DAAC was down October 24 for scheduled maintenance, and is now back up and running.

Masuoka reported that he went to the Aqua Operations Readiness Review (ORR) and reported on needed ingest rates at the DAAC .

As far as progress on the reprocessing, Masuoka reported that they are caught between trying to finish up the 12 months, and the constraints of the PDR server and other hardware. They need to balance ingest and export to progress.

Also, at the Aqua ORR, Masuoka said the issue of "mission critical" data processing capability was addressed. He told the group that he didn't want to tell the review committee that 4x processing is mission critical. However, what is critical for Aqua launch is that we retain enough processing capacity to ensure we are able to monitor and maintain health and safety of Aqua and Terra. Salomonson said that he understands and believes 1x is necessary for Aqua. He says he understands that we're now constrained to 2x reprocessing and 1x going forward for Terra. When Aqua goes up, unless another 1X is delivered in timely fashion before that launch, the reprocessing for Terra will be limited to 1X. Given the difficulty this would cause for delivering products to the

community (already not satisfied with the delivery rate), it is hoped that the 1X for Aqua will occur appropriately. Masuoka will continue to advise on this matter.

Kempler commented that they have to separate processing for Terra and Aqua. The assumption is that Terra processing won't be impacted by this separation. The question becomes how guaranteed is that assumption, and the answer is that there is no guarantee. Reber said that he feels it is a mistake to even link the two. He said that he felt it wasn't appropriate (i.e. a "red herring") to discuss the issue of Terra data processing in the context of mission critical requirements for Aqua.

With respect to reprocessing at MODAPS, Masuoka reported that they have a backlog, but they are moving along. They are through with dailies through December and are about ready to make the 2nd eight-day period. Salomonson wondered if there was any chance to have the whole year done by the end of calendar year. Masuoka said that it would be tight. If MODAPS can't deliver data, it causes them to get backed up. But there's still a chance.

2.3 EOSDIS Update

Reber reported that there was a request at an ESDIS meeting to encourage Aqua instrument teams to get feedback promptly from MOSS test dry runs to help ensure that the tested functions work for launch. There have been delays in the past that impacted the ability of ESDIS to correct deficiencies in a timely manner.

2.4 NOAA-NESDIS Update

Ramsay reported that the U.S. Air Force Weather Agency (AFWA) indicated a preference for near real time (NRT) MODIS radiances and derived radiance products from the NESDIS NRT MODIS processing system, as opposed to products from the NASA MODIS Land Rapid Response System, based on the NASA-NOAA-AFWA telecon organized by J. Henegar, NASA. NESDIS is currently processing L0 data globally. NASA-NOAA expect equipment installation in the next couple of weeks that will eventually enable processing of derived products. Ramsay is not sure the AFWA understands all the implications for processing MODIS data, and that it may entail an education process. Justice expressed concern they may not be getting clear information. Ramsay suggested Justice provide detailed information to AFWA on the MODIS LRRS. Ramsay also reported that AFWA was interested in MODIS snow/cloud discrimination products. D. Hall, NASA, responded to AFWA with additional information per Ramsay's suggestion to Hall.

Ramsay reported that the NOAA Science Center, in Camp Springs, is now receiving NRT MODIS sea ice products and making them available to the National Weather Service and the National Ice Center, as well as to the NESDIS operational snow and ice mapping team.

In conclusion, Ramsay said that he submitted a straw proposal for a MODIS Land Rapid Response System operational demo at NOAA/NESDIS for consideration and further development to Justice, and NESDIS operations.

2.5 General Discussion
Barnes reported that the DIS would be recompeted . They are putting together a Source Evaluation Board (SEB) and need someone out of 900 to serve.

Salomonson presented his slides for IWG and asked for feedback. He indicated he would be sending a note to the Science Team as to objectives of the upcoming MST meeting. He plans to invite PAO, and also hopes to talk about schedule for validating products. He plans to ask team members to look more closely at current definitions to see if the products may already qualify as *validated* instead of *provisional* status.

Masuoka said that as they get ready for reprocessing, it would be useful to know what added changes people want. For example, he knows Atmosphere team has a suite of items they want reprocessed.

3.0 Action Items

3.1 Justice to contact Bob Whacker.
3.2 Ramsay to forward Justice an email from him.
3.3 Discipline leads to meet to resolve the issue of beta-release code and science-quality code, and what we need to say about it.
Status: Open.
3.4 Technical team to discuss further the issue of predicted ephemeris data and how to improve it.
Status: Open.